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(54) Title: INJECTABLE SOLID HYALURONIC ACID CARRIERS FOR DELIVERY OF OSTEOGENIC PROTEINS

(57) Abstract: An injectable or implantable rod-shaped formulation is disclosed for delivery of osteogenic proteins. The formulation comprises hyaluronic acid derivatives and osteogenic proteins, and optional excipients and active ingredients such as a bone resorption inhibitor. Methods of making injectable rod-shaped pharmaceutical compositions and methods of using the osteogenic compositions to treat osteoporotic and/or osteopenic bone are also disclosed.



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# INTERNATIONAL SEARCH REPORT

International Application No.

PCT/US03/14609

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : A61K 38/18, 38/16; A61F 2/02

US CL : 424/409, 418, 423; 514/12, 8, 21

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 424/409, 418, 423; 514/12, 8, 21

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

Please See Continuation Sheet

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5,939,323 A (VALENTINI et al.) 17 August 1999 (17.08.1999), see entire document.	1-13, 49-71
Y	US 6,187,742 B1 (WOZNEY et al.) 13 February 2001 (13.02.2001), see entire document.	1-13, 49-71
Y	US 3,955,719 A (PHEULPIN) 11 May 1976 (11.05.1976), see abstract.	1-13, 49-71
Y	US 4,758,233 A (PHILLIPS et al.) 19 July 1988 (19.07.1988), see column 1, lines 4-8.	1-13, 49-71
Y	US 4,784,055 A (LANGEN et al.) 15 November 1988 (15.11.1988), see abstract.	1-13, 49-71
Y	US 5,118,667 A (ADAMS et al.) 02 June 1992 (02.06.1992), see entire document.	1-13, 49-71



Further documents are listed in the continuation of Box C.



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\* Special categories of cited documents:

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**Continuation of B. FIELDS SEARCHED Item 3:**

USPT, EPAB, JPAB, DWPI

search terms: bmp, bisphosphonate, inject, paste, solid